

**The University of Minnesota**  
**AGRICULTURAL EXTENSION DIVISION**  
**Special Bulletin No. 77**

University Farm, St. Paul

July 1923

Published by the University of Minnesota, College of Agriculture, Extension Division, F. W. Peck, Director, and distributed in furtherance of the purposes of the co-operative agricultural extension work provided for in the Act of Congress of May 8, 1914.

## HOW FAIRFIELD KEPT FARM ACCOUNTS

By W. L. Cavert  
 Division of Agricultural Extension

Mr. Fairfield was busily engaged with pencil and paper on a January evening. "What have you on your mind now?" asked Mrs. Fairfield. "Well," he said, "I was at the First National Bank today and asked if I could renew my note for \$1500 that I gave a year ago in order to clean up the accounts that we were unable to pay when deflation hit us. He said that probably it could be renewed if I paid the interest and made a small payment on the principal, but that before giving a definite answer he wanted me to furnish him a net worth statement. He said it was customary when he loaned money to merchants for them to furnish a confidential net worth statement, as it was his business to loan the money of the bank's depositors to such



Fig. 1. Do It Now

Only a few minutes daily are required to keep the necessary farm records. It should be done daily when the facts and figures are fresh in mind. It is largely a matter of getting the habit.

persons as could be expected to repay it, and that a net worth statement was a great help in forming a correct judgment as to the ability of the borrower to repay. I told him that it was a big job and much red tape to make a net worth statement. I felt like telling him that my net worth statement was none of his business, but after he had explained the matter I could see that there was considerable point to his side of the argument so I told him I would bring in a net worth statement the next time I came. Here is a summary of the statement that I have prepared:"

### STATEMENT OF NET WORTH, JANUARY 1, 1922

#### Assets

Livestock:	
Horses, 6 .....	\$ 605
Cows, 15 .....	2,000
Other cattle, 15.....	616
Hogs, 25 .....	286
Poultry, 200 .....	209
Machinery .....	1,523
Feed, seed, and miscellaneous supplies.....	896
Land, 156 acres at \$140.....	23,400
Life insurance, cash surrender value.....	300
Money in the bank and in pocket.....	100
Note due me from Jim. Smith.....	75
	<hr/> \$30,010

#### Liabilities

Mortgage due, 1925.....	\$5,000
Note in bank.....	1,500
Unpaid store accounts.....	50
	<hr/> \$ 6,550

Net worth ..... \$23,460

"Now that it is done," he said, "I find that it takes but an hour or two, and it gives one much satisfaction to know just how he stands."

After reading it, Mrs. Fairfield said: "So we are worth \$23,460. I remember that when we started farming on a tenant basis twenty years ago our property consisted of 4 horses, 8 head of cattle, a few hogs, the most necessary machinery, and a little feed and seed."

"Yes," said Mr. Fairfield, "I suppose all that equipment wasn't worth over \$2000, so we have gone ahead financially in those twenty years at an average rate of more than a thousand dollars a year. I wish that we had made such a net worth statement on the first of each January. It would have told us just how much we were getting ahead each year and it would have taken only one evening a year."

The next time he went to town Mr. Fairfield gave his banker a copy of his net worth statement. When the banker examined the

statement he said to Mr. Fairfield, "I shall be glad to renew your note, as your net worth statement shows an ample margin of security behind the loan; and the fact that you have accumulated this net worth of more than \$23,000 shows that on the average you make money."

### FAIRFIELD STARTS A FARM ACCOUNT BOOK

After he left the bank, it occurred to Mr. Fairfield to stop at the office of County Agricultural Agent ——— and inquire as to whether there was any cheap and convenient form for use in preparing net worth statements and keeping farm records. The county agent showed him a copy of the account book prepared by the Agricultural Extension Division of the Minnesota College of Agriculture, and suggested to Mr. Fairfield that he obtain a copy, enter his opening inventory, and record the year's receipts and expenditures as they occurred. That night Mr. Fairfield was busy transferring the list of livestock, machinery, feed, etc., on hand, with the value of each item, to the inventory pages of his new farm account book.

#### Inventory of Hogs,

Date 1-1-1922

Date 1-1-1923

	Beginning of Year				No. died or butchered	Close of Year			
	Number of head	Estimated weight per head	Price per head	Total value		Number of head	Estimated weight per head	Price per head	Total value
Breed Sows	2	300	25	50		4	250	22	88
	2	375	30	60		6	250	21.50	129
	3	250	20	60					
Bears	1	300	34	17		1	260	24	24
Fat hogs	7	180	11	77		1	400	25	25
						3	160	12	36
Pigs	11	35	2	22		21	55	5	105
No. of spring pigs raised this year	27								
No. of fall pigs raised this year	21								
TOTAL FOR HOGS			x	\$286				x	\$407

Fig. 2. Mr. Fairfield's Hog Inventory

Note that estimated weights and prices are in round numbers. These are sufficiently accurate when the figures are only for the use of the farmer himself.

### CLOSING THE ACCOUNT BOOK

A year later, Mr. Fairfield was again busy with his farm account book. First he recorded his inventory<sup>1</sup> just as he had a year previous, then he proceeded to add the totals and to bring the figures together in an annual statement. This is the way his summary looked:

<sup>1</sup> The farm inventory differs from the net worth statement on page 2 in that the farm inventory includes only items connected with the farm business, while the net worth statement includes all of one's possessions, such as cash value of life insurance policies, money in the bank, etc., whether connected with the farm business or not.

## Assets

## Livestock:

	Jan. 1, 1922	Jan. 1, 1923
Horses .....	\$ 605	\$ 570
Cattle .....	2,616	2,439
Hogs .....	286	407
Poultry .....	209	275
Machinery .....	1,523	1,541
Feed and seed.....	896	1,737
Farm, 156 acres at \$150.....	23,400	23,284*
	<u>\$29,535</u>	<u>\$30,253</u>

## Liabilities

Mortgage .....	\$ 6,000	\$ 6,000
Note at bank.....	1,500	1,400
	<u>7,500</u>	<u>7,400</u>
Total deductions .....		
Net value of inventory.....	\$22,035	\$22,853
Increase of inventory.....	\$ 818	

## Receipts:

## Cattle:

Butterfat .....	\$1,175.63	
Veal calves .....	115.90	
Cows, 6 head.....	450.55	
	<u>\$1,742.08</u>	
Hogs .....		600.19
Eggs and poultry.....		445.24
Grain .....		18.77
Increase of inventory.....		818.00
		<u>\$3,624.28</u>

## Expenses:

Labor, 7 months.....	\$ 264.98
Board of labor, 7 months*.....	140.00
Machinery:	
Half interest in tractor.....	\$200.00
Tractor plow .....	44.75
Repairs .....	121.30
	<u>366.05</u>
Gas, kerosene, and oil for tractor and engine, and one-half of gas and oil for auto.....	173.04
Auto repairs and license, \$62.25—(one-half to farm business) .....	31.12
Feed bought .....	189.56
Taxes .....	176.22

\* The value of the farm at the end of the year is \$116 less than at the beginning because Mr. Fairfield figured that the repairs made during the year had lacked that much of covering depreciation on buildings, fences, and water system.

\* The cost of boarding a hired man is made up of (1) room-rent; (2) cost of such vegetables, dairy products, eggs, and meat as are furnished by the farm; (3) cash cost of extra groceries required; and (4) extra work required in the household because of the presence of hired help. In Fairfield's accounts only the last two items were considered. If the value of farm products devoted to boarding hired help is considered as an expense, these same products should also be considered as a receipt and the two items would offset each other.

Interest on mortgage.....	360.00	
Interest on note.....	105.00	
Payment on principal of note.....	100.00	
Building repairs .....	109.55	
Threshing and twine.....	90.90	
Seed .....	103.89	
Other items, including insurance, horse-shoeing, and telephone .....	34.40	
	<hr/>	2,244.71
Receipts above expenses.....		\$1,379.57

"I find from my farm records," said he to his wife, "that we have \$1379.57 as receipts above expenses." "Is that our profit for the year?" asked Mrs. Fairfield, "and if it is our profit, why is it that we can't pay up most of that \$1400 note at the bank?" "That is what our figures show," said Mr. Fairfield, "and I have added these columns several times and feel certain that they are correct, but as you say, why haven't we the profits on hand so that we can pay the note?" He gave up trying to answer the question that evening, but as he went about his work the next day, Mr. Fairfield continually considered the question of what became of his paper profits. That evening he resumed his labors with the lead pencil and prepared the following:

Total income	
Receipts above expenses.....	\$1,379.57
Item charged for board of help*.....	140.00
	<hr/>
	\$1,519.57
Deduct:	
Increase of inventory.....	818.00
	<hr/>
Balance for living expenses and other uses.....	\$ 701.57

\* It is correct to regard the \$140 charged for board of help as a part of the income available for family living expenses, if one regards that portion of the \$140 represented by cost of groceries for the hired man as a part of the family grocery bill, and if one considers the portion of the \$140 that is for the extra work of caring for the hired man as income from taking a boarder.

"Now," said Mr. Fairfield, "I see that it really figures out that what we have had to live on was the \$701.57 by which our cash income has exceeded cash expenses; now I understand why \$100 on the principal of the note was all I could pay this year. We didn't keep a record of our family expenses—groceries, clothing, recreation, etc.—but I am sure it must have been close to \$700. Suppose, good wife, that this coming year you set down the items expended for the family living, then we will have a complete story of how the farm income was expended."

"When will we get that \$818 increase of inventory?" asked Mrs. Fairfield.

Mr. Fairfield referred to his inventory. "It seems to be due largely," said he, "both to higher prices for grain and hay and to the fact that we have more grain and hay on hand than at the beginning of the year. So far as the increase is due to a rise in prices, we are just recovering a portion of our net worth that we lost in the big slump."

**Receipts from Dairy Products: Milk, Cream, Butter**

(Butter traded for groceries is entered as a sale.)

DATE	WHERE SOLD	KIND OF PRODUCT	No. lbs. or gallons	Price	Total received
Feb. 3	Farmers' Creamery, Butterfat		251.0	43¢	107.93
Mar. 2	"	"	333.3	40¢	134.98
Apr. 4	"	"	308.8	42¢	129.69
May 5	"	"	356.1	40¢	142.44
June 4	"	"	329.6	43¢	141.72
July 3	"	"	374.7	39¢	146.13
Aug. 5	"	"	282.7	39¢	110.25
Sept. 4	"	"	161.9	38¢	62.33
Oct. 5	"	"	96.3	39¢	38.02
Nov. 3	"	"	52.0	47¢	24.70
Dec. 4	"	"	65.1	52¢	35.15
Jan. 3	"	"	167.0	61¢	102.29
	<b>Total</b>		<b>2778.5</b>		<b>\$1175.63</b>

Fig. 3. Mr. Fairfield's Record of Dairy Receipts

Notice that he entered quantity as well as total dollars. This will enable him to compute the production per cow and to compare it with his neighbors.

**WERE THERE ANY PROFITS?**

"Now to look further into the question of our profits," said Mr. Fairfield, "I see that the \$1379.57 which we called profits is really pay for three items:

"1. The interest on an investment above liabilities of \$22,035.

"2. Pay for my labor and management.

"3. Pay for the labor done by you and the children in caring for the poultry, washing the dairy utensils, and helping occasionally in the field at rush seasons. I would like to know how to apportion that \$1379 among these three items."

"Yes," said Mrs. Fairfield, "and how about the work of keeping house, cooking the meals, making and mending clothing, and doing the family washing and ironing? That would cost you more than the hired man if you were to hire it done."

"Yes," replied her husband after some reflection, "it would certainly cost a considerable sum to hire the housework done as efficiently

as you do it, but I suppose if we lived in town the housekeeping work would be about the same as it is now and I don't suppose that the banker or merchant in town who has his house in one part of town and his business in another part, thinks of his household expenses as a part of the charges against his business."

Mr. Fairfield then prepared the following outline analyzing those paper profits of \$1379.57:

Receipts above expenses.....	\$1,379.57
Interest on \$22,035 at 5 per cent.....	1,101.68

Pay for farm work done by Mr. Fairfield and family.. \$ 277.89

"Well," said Mrs. Fairfield, "I should think that the work that the children and I have done caring for poultry, washing dairy utensils, and helping occasionally with field work, saved at least \$160 in hired help, so it figures out that you have worked for almost nothing."

"That's about right," said Mr. Fairfield, "but we had a house to live in, plenty of good milk, eggs, vegetables, and some meat in addition, so that I really did get several hundred dollars for my work. We haven't kept any record of those items, but perhaps we could prepare a rough estimate as to what they are worth."

"What would it cost us to rent this house at the county seat? I know that sister Emma and her husband in Minneapolis pay \$50 a month for a house no better than this except that it is somewhat more modern. I suppose \$20 a month would be a conservative figure." With this as a start Mr. and Mrs. Fairfield prepared the following estimate of farm products consumed by the family of five during the year:

House rent at \$20 per month.....	\$240.00
Cream, 1 quart a week or 52 quarts a year, at 26 cents....	13.52
Milk, 3½ quarts a day or 1,277 quarts a year at 4 cents....	51.08
Eggs, 2 dozen a week or 112 dozen a year, at 20 cents....	22.40
Chickens, 25, averaging 4 pounds at 15 cents.....	15.00
Potatoes, 25 bushels at 75 cents.....	18.75
Two hogs, 500 pounds at 8 cents.....	40.00
Vegetables from garden.....	30.00
Total .....	\$430.75

"I can see that the farm has some advantages," said Mrs. Fairfield. "While we figure these items at a little more than \$400 I am sure that sister Emma and her family pay close to \$1000 for them. I can endure the lean years with better grace when I consider that in the twenty years we have gained in net worth at the rate of over \$1000 a year. Emma's husband has been getting \$200 a month and that seems to us

like big wages, but they never seem to save much and they are frugal, industrious people just like us. I am sure that they have their home only partly paid for, and they told me when I visited there during State Fair week that they considered it worth \$5000 or \$6000, so that their net worth is probably less than \$3500."

### FINDING RETURNS ON LIVESTOCK

A few days after he had completed his financial statement for the year, Mr. Fairfield met his neighbor George Stone at the creamery. Mr. Fairfield told George that he had just summarized his year's accounts and had found that he earned 5 per cent on his investment but that he had little for his work except what the farm furnished for family use. "Is that so?" said Mr. Stone. "I haven't much in the way of records, but I have a feeling that you did better than I. But, what I would like to know, is what you made on your cows and hogs as these are our chief money products in this locality? Where did you make money and where did you lose it?"

"Well," said Mr. Fairfield, "I sold about 3000 pounds of butterfat for \$1175 and \$565 worth of cows and calves. This makes a total of \$1740 from which I would have to deduct a decrease of inventory of about \$175, leaving \$1565 as the actual return from cattle. I wish I knew how many dollars' worth of feed they ate, but my accounts did not cover anything except inventories and cash items."

### FAIRFIELD STARTS FEED RECORDS ON CATTLE AND HOGS

That evening Mr. Fairfield was again busy on his accounts. This time he was preparing an outline for keeping a rough record of feed used, that would be a supplement to his regular account book. When he had completed it, he said to Mrs. Fairfield, "A year from now when George Stone asks about my farm accounts, I will be able to tell him in a general way how many dollars' worth of feed I used for the cattle and also for the hogs."

"If you are going to weigh everything that we feed the cows and hogs, that is too much book-farming for me," said Mrs. Fairfield.

"Don't fear; what I thought was that we could keep an approximate record of the feed fed to each kind of livestock in the most convenient way. For example, there is the silage. That is all used for the cattle and can be charged to them by estimating the number of tons fed during the year. In case of grain, we can keep a record of that when we grind and mix it. The hay is a more difficult problem, as we feed it to both horses and cows. In that case, we can weigh enough hay for a day's feed every two weeks and then estimate the amount fed for a two weeks' period on that basis."



"That wouldn't be much extra work and it certainly would be interesting at the end of the year to know how many dollars' worth of feed had been used for both the cattle and hogs and to compare that figure with the income from each as shown in our farm account book."

"Yes," added Mr. Fairfield, "and after we have done that we could compare our figures from one year to another and see whether we are increasing our returns, and we could also compare them with George Stone's figures, or those of any other neighbor who might keep similar records. I will bring the subject up at our next farmers' club meeting and I am sure that several of the neighbors would be interested. We could then have our county agricultural agent come out and give us some suggestions in regard to taking inventories and keeping records. A year from now we could have another meeting at which we could discuss the lessons in more profitable farming that we can draw from our records."

### COMMENTS ON FAIRFIELD'S ACCOUNTS

Every farmer should imitate Mr. Fairfield and keep the following records:

1. An annual net worth statement.
2. A record of cash receipts and expenditures.
3. A summary that will show the increase or decrease in inventory, the income from each source, the expenses and the receipts above business expenses.
4. From the receipts above business expenses should be deducted a conservative rate of interest on the investment. This figure will show the amount that has been earned by the labor of the farm family. If the investment is over \$25,000, it may be more satisfactory to deduct from receipts above expenses a conservative sum for the work done by the farmer and his family and to compute the interest earned on the investment after charging wages.

Such records as the foregoing will require only a few minutes each day, and several hours in which to summarize the records at the end of the year. They may be conveniently kept in the Minnesota Agricultural Extension Farm Account Book. This book has been used in nearly every county of the state and seems to be well adapted to the needs of the average farmer. It may usually be obtained at a nominal figure through the office of the county agricultural agent, or may be had for 25 cents from the Students' Bookstore, University Farm, St. Paul.<sup>2</sup>

<sup>2</sup> This price is subject to change according to the cost of printing, paper, etc.

## FARMERS SHOULD KEEP FEED RECORDS

In addition, every farmer who derives any material income from livestock should keep approximate feed records of one or two of his leading kinds of livestock and, in addition, if butterfat is a leading source of income, should keep a record of the milk and butterfat production of each cow. One of the best methods of keeping these dairy records is by membership in a cow testing association. Booklets for keeping feed records of hogs and poultry may be obtained from the Agricultural Extension Division, University Farm, St. Paul.

Of course, feed is not the only expense in keeping livestock. In addition, there is labor, shelter, insurance, depreciation, taxes, etc., but if one knows the value of feed consumed, he can usually judge quite accurately as to whether the animals have added to or subtracted from the farm income.

In the case of hogs and beef cattle, feed is usually 70 to 85 per cent of the total expense. In the case of dairy cows, it is usually 50 to 60 per cent of the total expense, the farmer's own labor usually being the other main item.

## FINDING THE COST OF EACH PRODUCT

Farmers who desire a system of records that will enable them to compute the profit or loss from each product, as hogs, cattle, wheat, corn, etc., may secure from the Students' Book Store, University Farm, St. Paul, the book that is used in the classes in farm accounting at the School of Agriculture. The price of this book is \$1. It is suggested that beginners in the keeping of farm records start with the simpler book and later get this more complete one, if they feel the need of complete cost records.

## ASSISTANCE FROM THE AGRICULTURAL EXTENSION DIVISION

Farmers who have kept the Agricultural Extension Division farm account book or any other farm record book are invited to bring their completed farm account book or a summary of it, to their county agent and discuss with him their plans for making the farm business more profitable.

Whenever several farmers in a community are interested in keeping records, the county agricultural agent will be glad, so far as he is able to meet demands, to attend a meeting in the locality and give suggestions in regard to taking inventories, keeping records, and drawing conclusions from them. He may be able to give the experience

of other farmers in the county who have already tried plans that you have in mind for making your farm business more profitable.

**FARMERS' BULLETINS ON FARM RECORDS AND ALLIED  
SUBJECTS**

No. 511 "Farm Bookkeeping."

No. 572. "A System of Farm Cost Accounting."

No. 964 "Farm Household Accounts."

No. 1139 "A Method of Analyzing the Farm Business."

No. 1182 "Farm Inventories."

Any of these bulletins may be had upon application to the Secretary of Agriculture, Washington, D. C.